ABSTRACT

Comparison of TLC-Bioautograpy Contact and Agar-Overlay Method for Determination of Kanamycin Sulphate in Shrimp

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A simple thin-layer chromatographic (TLC) bioautography has been established for analysis of kanamycin sulphate in shrimp. The purpose of the study was to determining the better method was to for analysis of kanamycin sulphate analysis in shrimp between TLC-bioautography contact and TLC-bioautography agar-overlay. Kanamycin sulphate was separated from another component using silica gel 60 GF 254 and KH_2PO_4 10% as mobile phase. *Eschericia coli* ATCC 8739 was used as test antibacterial activity. Resolution factor (Rs) between kanamycin sulphate and streptomycin sulphate was 3,47 for TLC-bioautography contact and 3,85 for TLC-bioautography agar-overlay. TLC-bioautography contact detection limit of kanamycin sulphate was 70 ppm and quantitation limit was 231 ppm. TLC-bioautography agar-overlay detection limit of kanamycin sulphate was 70 ppm and quantitation limit was 231 ppm. TLC-bioautography contact response was to be linier at the range of kanamycin sulphate concentration between (100,1 – 200,02) ppm (y= 4,6398x-6,7705; r= 0,970; Vxo = 1,525%). TLC-bioautography agar-overlay response was to be linier at the range of kanamycin sulphate concentration between (100,10 – 200,02) ppm (y = 4.0641x-2.9968; r = 0,998; Vxo = 1,017%). Average recovery TLC-bioautography contact and agar-overlay were 100,47% and 100,73%, respectively. Thus based on result of validation we can conclude based specificity, LOD and LOQ, linearity, acuration and precision both of method were fulfill requirements validation parameters. However, this research also conclude that TLC-bioautography agar-overlay is better than TLC-bioautography agar-overlay for determination kanamycin sulphate in shrimp.

Keyword : TLC-bioautography, contact, agar-overlay, kamanycin sulphate, shrimp